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Substitute for form 1449A/B/PTO

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet

1

of

14

Complete if Known

Application Number	Not Yet Assigned <u>10/777,684</u>
Filing Date	Concurrently Herewith
First Named Inventor	Terry L. Gilton
Art Unit	N/A <u>2823</u>
Examiner Name	Not Yet Assigned <u>H. LEE</u>

Attorney Docket Number M4065.0699/P699-B

## U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
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**	AD	4,269,935	05/1981	Masters et al.	
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		Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known)				
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**	BB	02/21542 A1	02/2002	WIPO		
**	BC	00/48196 A1	08/2000	WIPO		

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## NON PATENT LITERATURE DOCUMENTS

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Substitute for form 1449A/B/PTO				Complete If Known	
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				First Named Inventor	Terry L. Gilton
				Art Unit	N/A 2823
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**Lee	BE	WO 99/28914	06/1999	WIPO	

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*Lee May Lee*

*6/29/2005*

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*Karen May Lee* *6/29/2005*

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				Filing Date	Concurrently Herewith
				First Named Inventor	Terry L. Gilton
				Art Unit	N/A 2823
				Examiner Name	Not Yet Assigned H. LEE
Sheet	4	of	14	Attorney Docket Number	M4065.0699/P699-B

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**	AC2	10/232,757	08/2002	Le et al.	
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**Lee	AG2	6,635,914	10/2003	Kozicki et al.	
**Lee	AH2	6,670,713	12/2003	Gonzalez et al.	

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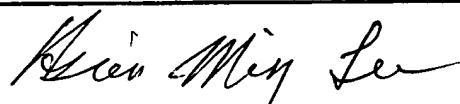
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**	CY1	Bondarev, et al., "A Dendrite Model of Current Instability in RbAg <sub>4</sub> I <sub>5</sub> ," Solid State Ionics, 70/71, 72-76, 1994.			
**	CZ1	Boolchand, "The Maximum in Glass Transition Temperature (T <sub>g</sub> ) Near x=1/3 in Ge <sub>x</sub> Se <sub>1-x</sub> Glasses," Asian Journal of Physics, 9, 709-72, 2000.			
**	CA2	Boolchand, et al., "Mobile Silver Ions and Glass Formation in Solid Electrolytes," Nature, 410, 1070-1073, 2001.			
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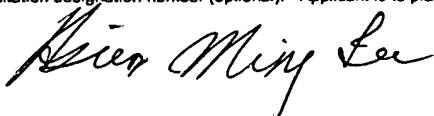
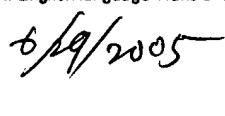

6/29/2005

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				First Named Inventor	Terry L. Gilton
				Art Unit	N/A 2823
				Examiner Name	Not Yet Assigned H. LEE
Sheet	7	of	14	Attorney Docket Number	M4065.0699/P699-B

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Lee	CC2	Boolchand, et al., "Onset of Rigidity in Steps in Chalcogenide Glasses," Properties and Applications of Amorphous Materials, M.F. Thorpe and Tichy, L. (eds.) Kluwer Academic Publishers, the Netherlands, pp. 97-132, 2001.				
**	CD2	Boolchand, et al., "Structural Ordering of Evaporated Amorphous Chalcogenide Alloy Films: Role of Thermal Annealing," Diffusion and Defect Data, Vol. 53-54, 415-420, 1987.				
**	CE2	Boolchand, et al., "Structural Origin of Broken Chemical Order in a GeSe <sub>2</sub> Glass," Phys. Rev. B 25, 2975-2978, 1982.				
**	CF2	Boolchand, et al., "Broken Chemical Order and Phase Separation in Ge <sub>x</sub> Se <sub>1-x</sub> Glasses," Solid State Comm. ,45, 183-185, 1983.				
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**	CK2	Bresser, et al., "Molecular Phase Separation and Cluster Size in GeSe <sub>2</sub> Glass," Hyperfine Interactions, 27, 389-392, 1986.				
**	CL2	Cahen, et al., "Room-Temperature, Electric Field Induced Creation of Stable Devices in CuInSe <sub>2</sub> Crystals," Science, 258, 271-274, 1992.				
**	CM2	Chatterjee, et al., "Current-controlled Negative-resistance Behavior and Memory Switching in Bulk As-Te-Se Glasses," J. Phys. D: Appl. Phys., 27, 2624-2627, 1994.				
**	CN2	Chen, et al., "Whisker Growth Induced by Ag Photodoping in Glassy Ge <sub>x</sub> Se <sub>1-x</sub> Films," Appl. Phys. Lett., 37, 1075-1077, 1980.				
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**	CP2	Chen, et al., "Effect of Si <sub>3</sub> N <sub>4</sub> on Chemical Durability of Chalcogenide Glass," J. Non-Cryst. Solids, 220, 249-253, 1997.				
**	CQ2	Cohen, et al., "A Model for an Amorphous Semiconductor Memory Device," J. Non-Cryst. Solids 8-10, 885-891, 1972.				
**	CR2	Croitoru, et al., "Ohmic and Non-ohmic Conduction in Some Amorphous Semiconductors," J. Non-Cryst. Solids 8-10, 781-786, 1972.				
**	CS2	Dalven, et al., "Electrical Properties of Beta-Ag <sub>2</sub> Te and Beta-Ag <sub>2</sub> Se from 4.2 to 300K," J. Appl. Phys. 38, 753-756, 1967.				
**	CT2	Davis, "Semiconductors Without Form," Search 1, 152-155, 1970.				
**	CU2	Dearnaley, et al., "Electrical Phenomena in Amorphous Oxide Films," Rep. Prog. Phys., 33, 1129-1191, 1970.				
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				Art Unit	<u>N/A</u> <u>2823</u>
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<i>Lee</i>	CW2	den Boer, "Threshold Switching in Hydrogenated Amorphous Silicon," <i>Appl. Phys. Lett.</i> , 40, 812-813, 1982.				
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	CY2	EI Bouchairi, et al., "Properties of Ag <sub>2-x</sub> Se <sub>1+x</sub> /n-Si Diodes," <i>Thin Solid Films</i> , 110, 107-113, 1983.				
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	CE3	Elliott, "Photodissolution of Metals in Chalcogenide Glasses: A Unified Mechanism," <i>J. Non-Cryst. Solids</i> , 137-138, 1031-1034, 1991.				
	CF3	Elsamanoudy, et al., "Conduction Mechanism in the Pre-switching State of Thin Films Containing Te As Ge Si," <i>Vacuum</i> , 46, 701-707, 1995.				
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	CJ3	Feng, et al., "Direct Evidence for Stiffness Threshold in Chalcogenide Glasses," <i>Phys. Rev. Lett.</i> , 78, 4422-4425, 1997.				
	CK3	Feng, et al., "Role of Network Connectivity on the Elastic, Plastic and Thermal Behavior of Covalent Glasses," <i>J. Non-Cryst. Solids</i> , 222, 137-143, 1997.				
	CL3	Fischer-Colbrie, et al., "Structure and Bonding in Photodifused Amorphous Ag-GeSe <sub>2</sub> Thin Films," <i>Phys. Rev. B</i> 38, 12388-12403, 1988.				
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	CO3	Fritzsche, "Electronic Phenomena in Amorphous Semiconductors," <i>Annual Review of Materials Science</i> , 2, 697-744, 1972.				
<i>Lee</i>	CP3	Gates, et al., "Single-crystalline Nanowires of Ag <sub>2</sub> Se can be Synthesized by Templating against Nanowires of Trigonal Se," <i>J. Am. Chem. Soc.</i> (2001) currently ASAP.				

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**	CR3	Guin, et al., "Indentation Creep of Ge-Se Chalcogenide Glasses Below Tg: Elastic Recovery and Non-Newtonian Flow," J. Non-Cryst. Solids, 298, 260-269, 2002.			
**	CS3	Guin, et al., "Hardness, Toughness, and Scratchability of Germanium-selenium Chalcogenide Glasses," J. Am. Ceram. Soc., 85, 1545-52, 2002.			
**	CT3	Gupta, "On Electrical Switching and Memory Effects in Amorphous Chalcogenides," J. Non-Cryst. Sol., 3, 148-154, 1970.			
**	CU3	Haberland, et al., "New Experiments on the Charge-controlled Switching Effect in Amorphous Semiconductors," J. Non-Cryst. Solids, 8-10, 408-414, 1972.			
**	CV3	Haifz, et al., "Effect of Composition on the Structure and Electrical Properties of As-Se-Cu Glasses," J. Apply. Phys., 54, 1950-1954, 1983.			
**	CW3	Hajto, et al., "Quantization Effects in Metal/a-Si:H/metal Devices," Int. J. Electronics, 73, 911-913, 1992.			
**	CX3	Hajto, et al., "DC and AC Measurements on Metal/a-Si:H/metal Room Temperature Quantised Resistance Devices," J. Non-Cryst. Solids, 266-269, 1058-1061, 2000.			
**	CY3	Hajto, et al., "Theory of Room Temperature Quantized Resistance Effects in Metal-a-Si:H-metal Thin Film Structures," J. Non-Cryst. Solids, 198-200, 825-828, 1996.			
**	CZ3	Hajto, et al., "Analogue Memory and Ballistic Electron Effects in Metal-amorphous Silicon Structures," Phil. Mag. B 63, 349-369, 1991.			
**	CA4	Hayashi, et al., "Polarized Memory Switching in Amorphous Se Film," Japan. J. Appl. Phys., 13, 1163-1164, 1974.			
**	CB4	Hegab, et al., "Memory Switching Phenomena in Thin Films of Chalcogenide Semiconductors," Vacuum, 45, 459-462, 1994.			
**	CC4	Hong, et al., "Switching Behavior in II-IV-V2 Amorphous Semiconductor Systems," J. Non-Cryst. Solids, 116, 191-200, 1990.			
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**	CI4	Haifz, et al., "Effect of Composition on the Structure and Electrical Properties of As-Se-Cu Glasses," J. Apply. Phys., 54, 1950-1954, 1983.			
** Lee	CJ4	Hajto, et al., "Quantization Effects in Metal/a-Si:H/metal Devices," Int. J. Electronics, 73, 911-913, 1992.			

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Lee	CK4	Hajto, et al., "DC and AC Measurements on Metal/a-Si:H/metal Room Temperature Quantised Resistance Devices," J. Non-Cryst. Solids, 266-269, 1058-1061, 2000.				
	CL4	Hajto, et al., "Theory of Room Temperature Quantized Resistance Effects in Metal-a-Si:H-metal Thin Film Structures," J. Non-Cryst. Solids, 198-200, 825-828, 1996.				
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**	CZ4	Hajto, et al., "Analogue Memory and Ballistic Electron Effects in Metal-amorphous Silicon Structures," Phil. Mag. B 63, 349-369, 1991.				
**	CA5	Hayashi, et al., "Polarized Memory Switching in Amorphous Se Film," Japan. J. Appl. Phys., 13, 1163-1164, 1974.				
**	CB5	Hegab, et al., "Memory Switching Phenomena in Thin Films of Chalcogenide Semiconductors," Vacuum, 45, 459-462, 1994.				
**	CC5	Hong, et al., "Switching Behavior in II-IV-V2 Amorphous Semiconductor Systems," J. Non-Cryst. Solids, 116, 191-200, 1990.				
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**	CF5	Hu, et al., "Capacitance Anomaly Near the Metal-non-metal Transition in Cr-hydrogenated Amorphous Si-V Thin-film Devices," Phil. Mag. B, 74, 37-50, 1996.				
**	CG5	Hu, et al., "Current-induced Instability in Cr-p+a-Si:H-V Thin Film Devices," Phil. Mag. B 80, 29-43, 2000.				
**	CH5	Iizima, et al., "Electrical and Thermal Properties of Semiconducting Glasses As-Te-Ge," Solid State Comm. 8, 153-155, 1970.				
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**	CJ5	Iyetomi, et al., "Incipient Phase Separation in Ag/Ge/Se Glasses: Clustering of Ag Atoms," J. Non-Cryst. Solids, 262, 135-142, 2000.				
**	CK5	Jones, et al., "Switching Properties of Thin Selenium Films Under Pulsed Bias," Thin Solid Films, 40, L15-L18, 1977.				
**	CL5	Joullie, et al., "On the DC Electrical Conduction of Amorphous As2Se7 Before Switching," Phys. Stat. Sol. (a) 13, K105-K109, 1972.				
**	CM5	Joullie, et al., "Electrical Properties of the Amorphous Alloy As2Se5," Mat. Res. Bull., 8, 433-442, 1973.				
**	CN5	Kaplan, et al., "Electrothermal Switching in Amorphous Semiconductors," J. Non-Cryst. Solids, 8-10, 538-543, 1972.				
**	CO5	Kawaguchi, et al., "Analysis of Change in Optical Transmission Spectra Resulting from Ag Photodoping in Chalcogenide Film," Jpn. J. Appl. Phys., 26, 15-21, 1987.				
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**	CW5	Leimer, et al., "Isothermal Electrical Polarisation of Amorphous GeSe Films with Blocking Al Contacts Influenced by Poole-Frenkel Conduction," Phys. Stat. Sol. (a) 29, K129-K132, 1975.				
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Lee	CY5	Matsushita, et al., "Polarized Memory Effect Observed on Se-SnO <sub>2</sub> System," Jap. J. Appl. Phys., 11, 1657-1662, 1972.			T <sup>2</sup>
**	CZ5	Matsushita, et al., "Polarized Memory Effect Observed on Amorphous Selenium Thin Films," Jpn. J. Appl. Phys., 11, 606, 1972.			
**	CA6	Mazurier, et al., "Reversible and Irreversible Electrical Switching in TeO <sub>2</sub> -V <sub>2</sub> O <sub>5</sub> Based Glasses," Journal de Physique IV 2, C2-185 - C2-188, 1992.			
**	CB6	Messoussi, et al., "Electrical Characterization of M/Se Structures (M=Ni,Bi)," Mat. Chem. And Phys., 28, 253-258, 1991.			
**	CC6	Mitkova, et al., "Microscopic Origin of the Glass Forming Tendency in Chalcogenides and Constraint Theory," J. Non-Cryst. Solids, 240, 1-21, 1998.			
**	CD6	Mitkova, et al., "Silver Incorporation in Ge-Se Glasses Used in Programmable Metallization Cell Devices," J. Non-Cryst. Solids, 299-302, 1023-1027, 2002.			
**	CE6	Miyatani, "Electronic and Ionic Conduction in (AgxCu <sub>1-x</sub> ) <sub>2</sub> Se," J. Phys. Soc. Japan, 34, 423-432, 1973.			
**	CF6	Miyatani, "Ionic Conduction in Beta-Ag <sub>2</sub> Te and Beta-Ag <sub>2</sub> Se," Journal Phys. Soc. Japan, 14, 996-1002, 1959.			
**	CG6	Mott, "Conduction in Glasses Containing Transition Metal Ions," J. Non-Cryst. Solids, 1, 1-17, 1968.			
**	CH6	Nakayama, et al., "Nonvolatile Memory Based on Phase Transitions in Chalcogenide Thin Films," Jpn. J. Appl. Phys., 32, 564-569, 1993.			
**	CI6	Nakayama, et al., "Submicron Nonvolatile Memory Cell Based on Reversible Phase Transition in Chalcogenide Glasses," Jpn. J. Appl. Phys., 39, 6157-6161, 2000.			
**	CJ6	Nang, et al., "Electrical and Optical Parameters of Ge <sub>x</sub> Se <sub>1-x</sub> Amorphous Thin Films," Jap. J. App. Phys., 15, 849-853, 1976.			
**	CK6	Narayanan, et al., "Evidence Concerning the Effect of Topology on Electrical Switching in Chalcogenide Network Glasses," Phys. Rev. B, 54, 4413-4415, 1996.			
**	CL6	Neale, et al., "The Application of Amorphous Materials to Computer Memories," IEEE transactions on electron dev. Ed-20, 195-209, 1973.			
**	CM6	Ovshinsky, "Reversible Structural Transformations in Amorphous Semiconductors for Memory and Logic," Metallurgical transactions, 2, 641-645, 1971.			
**	CN6	Ovshinsky, "Reversible Electrical Switching Phenomena in Disordered Structures," Phys. Rev. Lett., 21, 1450-1453, 1968.			
**	CO6	Owen, et al., "New Amorphous-silicon Electrically Programmable Nonvolatile Switching Device," IEEE Proc., 129, 51-54, 1982.			
Lee	CP6	Owen, et al., "Photo-induced Structural and Physico-chemical Changes in Amorphous Chalcogenide Semiconductors," Phil. Mag. B 52, 347-362, 1985.			
Lee	CQ6	Owen, et al., "Switching in Amorphous Devices," Int. J. Electronics, 73, 897-906, 1992.			

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*Ken May Lee 6/29/2005*

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Substitute for form 1449A/B/PTO				<b>Complete If Known</b>	
				Application Number	Not Yet Assigned 10/777,684
				Filing Date	Concurrently Herewith
				First Named Inventor	Terry L. Gilton
				Art Unit	N/A 2823
				Examiner Name	Not Yet Assigned H. Lee
Sheet	13	of	14	Attorney Docket Number	M4065.0699/P699-B

<b>NON PATENT LITERATURE DOCUMENTS</b>						
Examiner Initials	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.				T <sup>2</sup>
** <i>Lee</i>	CR6	Pearson, et al., "Filamentary Conduction in Semiconducting Glass Diodes," App. Phys. Lett., 14, 280-282, 1969.				
**	CS6	Pinto, et al., "Electric Field Induced Memory Switching in Thin Films of the Chalcogenide System Ge-As-Se," Appl. Phys. Lett., 19, 221-223, 1971.				
**	CT6	Popescu, "The Effect of Local Non-uniformities on Thermal Switching and High Field Behavior of Structures with Chalcogenide Glasses," Solid-state Electronics, 18, 671-681, 1975.				
**	CU6	Popescu, et al., "The Contribution of the Lateral Thermal Instability to the Switching Phenomenon," J. Non-Cryst. Solids, 8-10, 531-537, 1972.				
**	CV6	Popov, et al., "Memory and Threshold Switching Effects in Amorphous Selenium," Phys. Stat. Sol. (a) 44, K71-K73, 1977.				
**	CW6	Prakash, et al., "Easily Reversible Memory Switching in Ge-As-Te Glasses," J. Phys. D: Appl. Phys., 29, 2004-2008, 1996.				
**	CX6	Rahman, et al., "Electronic Switching in Ge-Bi-Se-Te Glasses," Mat. Sci. and Eng. B12, 219-222, 1992.				
**	CY6	Ramesh, et al., "Electrical Switching in Germanium Telluride Glasses Doped With Cu and Ag," Appl. Phys. A 69, 421-425, 1999.				
**	CZ6	Rose, et al., "Amorphous Silicon Analogue Memory Devices," J. Non-Cryst. Solids, 115, 168-170, 1989.				
**	CA7	Rose, et al., "Aspects of Non-volatility in a -Si:H Memory Devices," Mat. Res. Soc. Symp. Proc. V 258, 1075-1080, 1992.				
**	CB7	Schuocker, et al., "On the Reliability of Amorphous Chalcogenide Switching Devices," J. Non-Cryst. Solids, 29, 397-407, 1978.				
**	CC7	Sharma, et al., "Electrical Conductivity Measurements of Evaporated Selenium Films in Vacuum," Proc. Indian Natn. Sci. Acad. 46, A, 362-368, 1980.				
**	CD7	Sharma, "Structural, Electrical and Optical Properties of Silver Selenide Films," Ind. J. Of Pure and Applied Phys., 35, 424-427, 1997.				
**	CE7	Snell, et al., "Analogue Memory Effects in Metal/a-Si:H/metal Memory Devices," J. Non-Cryst. Solids, 137-138, 1257-1262, 1991.				
**	CF7	Snell, et al., "Analogue Memory Effects in Metal/a-Si:H/metal Thin Film Structures," Mat. Res. Soc. Symp. Proc. V 297, 1017-1021, 1993.				
**	CG7	Steventon, "Microfilaments in Amorphous Chalcogenide Memory Devices," J. Phys. D: Appl. Phys., 8, L120-L122, 1975.				
**	CH7	Steventon, "The Switching Mechanisms in Amorphous Chalcogenide Memory Devices," J. Non-Cryst. Solids, 21, 319-329, 1976.				
** <i>Lee</i>	CI7	Stocker, "Bulk and Thin Film Switching and Memory Effects in Semiconducting Chalcogenide Glasses," App. Phys. Lett., 15, 55-57, 1969.				

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*Karen May Lee* *6/9/2005*

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Substitute for form 1449A/B/PTO				<i>Complete if Known</i>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> <i>(Use as many sheets as necessary)</i>				Application Number	Not Yet Assigned 10/777, 684
Sheet	14	of	14	Filing Date	Concurrently Herewith
				First Named Inventor	Terry L. Gilton
				Art Unit	N/A 2823
				Examiner Name	Not Yet Assigned H. LEE
				Attorney Docket Number	M4065.0699/P699-B

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** Lee	CJ7	Tanaka, "Ionic and Mixed Conductions in Ag Photodoping Process," Mod. Phys. Lett B 4, 1373-1377, 1990.			T <sup>2</sup>
**	CK7	Tanaka, et al., "Thermal Effects on Switching Phenomenon in Chalcogenide Amorphous Semiconductors," Solid State Comm., 8, 387-389, 1970.			
**	CL7	Thornburg, "Memory Switching in a Type I Amorphous Chalcogenide," J. Elect. Mat., 2, 3-15, 1973.			
**	CM7	Thornburg, "Memory Switching in Amorphous Arsenic Triselenide," J. Non-Cryst. Solids, 11, 113-120, 1972.			
**	CN7	Thornburg, et al., "Electric Field Enhanced Phase Separation and Memory Switching in Amorphous Arsenic Triselenide," Journal(??), 4609-4612, 1972.			
**	CO7	Tichy, et al., "Remark on the Glass-forming Ability in Ge <sub>x</sub> Se <sub>1-x</sub> and As <sub>x</sub> Se <sub>1-x</sub> Systems," J. Non-Cryst. Solids, 261, 277-281, 2000.			
**	CP7	Titus, et al., "Electrical Switching and Short-range Order in As-Te Glasses," Phys. Rev. B 48, 14650-14652, 1993.			
**	CQ7	Tranchant, et al., "Silver Chalcogenide Glasses Ag-Ge-Se: Ionic Conduction and Exafs Structural Investigation, Transport-structure Relations in Fast Ion and Mixed Conductors," Proceedings of the 6th Riso International symposium, 9-13, September 1985.			
**	CR7	Tregouet, et al., "Silver Movements in Ag <sub>2</sub> Te Thin Films: Switching and Memory Effects," Thin Solid Films, 57, 49-54, 1979.			
**	CS7	Uemura, et al., "Thermally Induced Crystallization of Amorphous Ge <sub>0.4</sub> Se <sub>0.6</sub> ," J. Non-Cryst. Solids, 117-118, 219-221, 1990.			
**	CT7	Ultecht, et al., "Electric Field Induced Filament Formation in As-Te-Ge Glass," J. Non-Cryst. Solids, 2, 358-370, 1970.			
**	CU7	Viger, et al., "Anomalous Behaviour of Amorphous Selenium Films," J. Non-Cryst. Solids, 33, 267-272, 1976.			
**	CV7	Vodenicharov, et al., "Electrode-limited Currents in the Thin-film M-GeSe-M System," Mat. Chem. And Phys., 21, 447-454, 1989.			
**	CW7	Wang, et al., "High-performance Metal/silicide Antifuse," IEEE Electron Dev. Lett., 13, 471-472, 1992.			
**	CX7	Weirauch, "Threshold Switching and Thermal Filaments in Amorphous Semiconductors," App. Phys. Lett., 16, 72-73, 1970.			
**	CY7	West, et al., "Equivalent Circuit Modeling of the Ag As <sub>0.24</sub> S <sub>0.36</sub> Ag <sub>0.40</sub>  Ag System Prepared by Photodissolution of Ag," J. Electrochem. Soc., 145, 2971-2974, 1998.			
** Lee	CZ7	Zhang, et al., "Variation of Glass Transition Temperature, T <sub>g</sub> , With Average Coordination Number, <m>, in Network Glasses: Evidence of a Threshold Behavior in the Slope  dT <sub>g</sub> /d<m>  at the Rigidity Percolation Threshold (<m>=2.4)," J. Non-Cryst. Solids, 151, 149-154, 1992.			

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